



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,970	07/22/2005	Marinus C Van Loosdrecht	07238/0202637-US0	7505

7278 7590 08/25/2006

DARBY & DARBY P.C.  
P. O. BOX 5257  
NEW YORK, NY 10150-5257

EXAMINER
----------

PRINCE, FRED G

ART UNIT	PAPER NUMBER
----------	--------------

1724

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/527,970

Applicant(s)

VAN LOOSDRECHT ET AL.

Examiner

Fred Prince

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0605.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities:

In line 6, "organis" should be changed to organic;

In line 9, "oxyugen-depleted" should be changed to oxygen-depleted.

Appropriate correction is required.

2. Claim 10 is objected to because of the following informalities: In line 3, "slude" should be changed to sludge. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board

Art Unit: 1724

of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 7 recites the broad recitation 50 to 110%, and the claim also recites 0 to 105% and 90 to 100% which is the narrower statement of the range/limitation. In the present instance, claim 9 recites the broad recitation at least 50%, and the claim also recites at least 75% and at least 90% which is the narrower statement of the range/limitation.

6. Claim 7 recites the limitation "the bed" in line 4. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 7, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Beun et al. (Reference CE on IDS).

Beun et al. teach a method for the treatment of waste water comprising an organic nutrient, wherein the waste water is brought into contact with microorganisms-comprising sludge particles, an oxygen-comprising gas is fed to the sludge particles, and the method further comprises the settling of the sludge particles and the discharge of organic nutrient-depleted waste water (fig. 1, pg 703), characterized in that in a first step the waste water is fed to sludge granules, under oxygen-depleted conditions (pg. 704) after the supply of the waste water to be treated an oxygen-comprising gas is introduced in a second step, with the granules being in a fluidized condition and in a third step, a settling step, the sludge granules are allowed to settle, wherein the selection is made based on settling velocities (abstract; pg. 703; Fig. 3), wherein the wastewater is in at least broadest range relative to the a bed void volume (pg 707, 710).

9. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Dangcong et al. (Reference CD on IDS).

Dangcong et al. teach a method for the treatment of waste water comprising an organic nutrient, wherein the waste water is brought into contact with microorganisms-comprising sludge particles, an oxygen-comprising gas is fed to the sludge particles, and the method further comprises the settling of the sludge particles and the discharge of organic nutrient-depleted waste water (abstract; pg. 890, 892), characterized in that

in a first step the waste water is fed to sludge granules, under oxygen-depleted conditions (pg. 893) after the supply of the waste water to be treated an oxygen-comprising gas is introduced in a second step, with the granules being in a fluidized condition and in a third step, a settling step, the sludge granules are allowed to settle,

10. Claims 1, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgenroth et al. (Reference CC on the IDS).

Morgenroth et al. teach a method for the treatment of waste water comprising an organic nutrient, wherein the waste water is brought into contact with microorganisms-comprising sludge particles, an oxygen-comprising gas is fed to the sludge particles, and the method further comprises the settling of the sludge particles and the discharge of organic nutrient-depleted waste water (pg 3192), characterized in that in a first step the waste water is fed to sludge granules, under oxygen-depleted conditions (Table 3) after the supply of the waste water to be treated an oxygen-comprising gas is introduced in a second step, with the granules being in a fluidized condition and in a third step, a settling step, the sludge granules are allowed to settle, wherein the selection is made based on settling velocities (abstract).

11. Claims 1, 7, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Beun et al. (Reference CB on IDS).

Beun et al. teach a method for the treatment of waste water comprising an organic nutrient, wherein the waste water is brought into contact with microorganisms-comprising sludge particles, an oxygen-comprising gas is fed to the sludge particles, and the method further comprises the settling of the sludge particles and the discharge

Art Unit: 1724

of organic nutrient-depleted waste water (abstract), characterized in that in a first step the waste water is fed to sludge granules, under oxygen-depleted conditions (abstract) after the supply of the waste water to be treated an oxygen-comprising gas is introduced in a second step (pp 82-83), with the granules being in a fluidized condition and in a third step, a settling step, the sludge granules are allowed to settle, wherein the selection is made based on settling velocities (pg. 82), wherein the wastewater is in at least broadest range relative to the a bed void volume (since the reactor is operated and set-up as with Reference CE; pg. 82).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of the primary references above.

The method of each of the primary references is described above. None of the primary references explicitly discloses that the initial interval is long enough to remove the recited quantity of organic material.

Art Unit: 1724

It is submitted that it is well known in the art that oxygen-depleted conditions are suitable for the degradation of organic materials and that a certain time is required to facilitate the degradation (see, for example, US Pat No 6,024,876 to Pannier et al.). Accordingly, it would have been readily obvious for the skilled artisan to leave the reactor in an oxygen-depleted state for a desired time period in order to degrade a certain percentage of the waste prior to changing the oxygen-depleted condition to an aerated condition. Regarding the exact percentage recited in the instant claims, it is submitted that the percentages reside in the area of routine optimization of process effective variables, insufficient to patentably distinguish the instant invention over the prior art.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.



Art Unit: 1724

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Fred Prince  
Primary Examiner  
Art Unit 1724

fgp  
8/18/06